

# *Indagator fordii*, a new genus and species of the Sterculiaceae from northern Queensland, Australia

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## Summary

Halford, D.A. (2002). *Indagator fordii*, a new genus and species of the Sterculiaceae from northern Queensland, Australia. *Austrobaileya* 6 (2): 337–340. The new genus *Indagator* Halford is described with a single species *Indagator fordii* Halford. Notes on its distribution and habitat are provided.

Key words: Sterculiaceae, taxonomy, Australian flora, *Indagator*, *Indagator fordii*

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## Introduction

Mr Andrew Ford of CSIRO, Atherton, Queensland brought to my attention fruiting collections from Silver Plains Holding in north east Queensland (*Hyland* RFK25863; *Gray* 06459; *Gray* 06455) that were filed in the Queensland Herbarium (BRI) under the genus *Commersonia* (Sterculiaceae). Examination of these collections and additional flowering material supplied by Mr Ford revealed that the taxon concerned did not belong in the genus *Commersonia* as there are some important differences in floral morphology that preclude its inclusion in that genus. Further investigations found that the collections could not be satisfactorily placed in any of the presently described genera in the Sterculiaceae or Tiliaceae that had been recorded for Australia. Based on Hutchinson's (1967) combined key to the tribes of Tiliaceae and Sterculiaceae, this material belongs in tribe *Helmiopsideae* of the Sterculiaceae. However, the material is not referable to any of the genera he included in the tribe (*Helmiopsiella* J.Arènes, *Helmiopsis* H.Perrier and *Nesogordonia* Baill.) and is described here as both a new genus and species belonging in tribe *Helmiopsideae*.

### *Indagator fordii* Halford, gen. et sp. nov.

Arbor semidecidua usque 9 m alta sine anteridibus. Ramuli juvenes ± cylindrici dense stellate pubescentes; pili stellati

sessiles multiangulati. Folia simplicia, spiraliter alterna, stipulata, petiolata. Stipulae ± lineares, 4–9 mm longae, c. 0.5 mm latae, caducae, dense stellate pubescentes. Lamina folii ovata, 9–19 cm longa, 6–13 cm lata, chartacea, apice acuta vel obtusa vel rotundata, basi obtusa usque leviter cordata, marginibus leniter denticulatis 6–10 dentibus parvis utrinque; domatia carentia; venatio palmata 5–7 venis e basi et utroque venarum primariorum latere 3–5; venae primariae lateralesque glande parva pubescente protrudenti in margine folii terminatae; venae laterales c. 45° e venis primariis divergentes, curvatae pro tota longitudine; venae interlaterales ± scalariformes. Inflorescentiae thrysoides, axillares, ad axillas superas limitatae, bracteatis cymulis ultimis 3–5 floribus. Flores bisexuales pedicellati. Sepala 5, valvata sub anthesi tarde secedentia plerumque proximaliter connata remanentia, 5–7 mm longa; pagina abaxialis verrucata, stellate pubescens; pagina adaxialis laevis, ± glabra praeter pilos crispatos simplices dissitos. Petala 5, anguste obovata, 9–11 mm longa, 3–4.5 mm lata, glabra, incisuris irregularibus distaliter. Stamina 25–30; filamenta teretia glabra, basi breviter connata; antherae dorsifixae bilobatae, thecis ellipsoideis, longitudinaliter dehiscentes. Staminodia 5, ligulata, c. 3.2 mm longa, glabra.

Ovarium superum, sessile, 5(raro 4) loculare, depresso-globosum, dense stellate pubescens; ovula apicaliter affixa, 1–4 in quoque loculo; styli 5(raro 4), coaliti longitudinaliter, 4.5–5.5 mm longi,  $\pm$  glabri praeter pilos stellatos dissitos proximaliter; stigma parvum. Fructus capsula tarde dehiscens, dense stellate pubescens, spinis validis 4–10 mm longis tecta, corpore fructus depressogloboso, c. 15 mm longo, c. 22 mm lato. Semen ovoideum, 7–8 mm longum, c. 5 mm in latitudine, in exotesta papyracea persistente inclusum. **Typus:** Queensland. COOK DISTRICT: Klondike Mine Road, 1 Dec 1995, *B. Gray* 6455 (holo: BRI).

Semi-deciduous tree up to 9 m high, without buttresses, occasionally multistemmed; stems up to 10 cm dbh. Bark fissured, flaky; outer blaze yellow, white or cream with longitudinal stripes and fibrous. Young branchlets  $\pm$  cylindrical, densely stellate-pubescent, glabrescent; stellate hairs sessile, multiangulate, ferruginous, up to 0.5 mm across. Older branchlets longitudinally rugose, sparsely lenticellate,  $\pm$  greyish coloured; lenticels  $\pm$  circular or elliptic, up to 1 mm at their widest point, whitish or pale brown. Leaves simple, spirally alternate, stipulate, petiolate. Stipules  $\pm$  linear, 4–9 mm long, c. 0.5 mm wide, densely stellate-hairy, caducous. Petioles cylindrical, 3–8 cm long, slightly swollen at base and at the junction with the leaf lamina, densely stellate-hairy when young with hairs similar to those of the young branchlet, glabrescent. Leaf lamina ovate, 9–19 cm long, 6–13 cm wide, chartaceous, acute, obtuse or rounded at apex, obtuse to shallowly cordate at base, with margins weakly denticulate with 6 to 10 small teeth per side; adaxial and abaxial surfaces stellate pubescent when young, becoming glabrous except for persistent stellate hairs along primary and lateral veins; domatia absent; venation slightly raised on adaxial surface, prominent on abaxial surface, palmate with 5–7 veins from base with 3 to 5 lateral veins per side of primary veins; primary and lateral veins ending in a small hairy gland protruding from leaf margin; lateral veins at c. 45 deg. to primary veins, curved throughout their length; interlateral

veins  $\pm$  scalariform. Inflorescences thyrsoid, axillary, confined to the upper leaf axils, bracteate, 15–30 mm long, with ultimate cymules 3–5 flowered; peduncles densely stellate-hairy; bracts narrowly oblong to linear, 1–4 mm long, densely stellate-hairy. Flowers bisexual, pedicellate; pedicels  $\pm$  terete, 5–7 mm long, densely stellate-hairy. Sepals 5, valvate, tardily separating at anthesis, usually remaining connate proximally, 5–7 mm long; abaxial surface verrucate, stellate-hairy; adaxial surface smooth,  $\pm$  glabrous except for scattered crispate simple hairs distally. Petals 5, narrowly obovate, 9–11 mm long, 3–4.5 mm wide, glabrous, irregularly notched distally. Stamens 25–30; filaments terete, 3–5 mm long, glabrous, shortly connate at base; anthers c. 0.5 mm long, dorsifixed, bilobate, with thecae ellipsoid, longitudinally dehiscent. Staminodes 5, ligulate, c. 3.2 mm long, glabrous. Ovary superior, sessile, 5(rarely 4)-locular, depressed globose, c. 1.3 mm long, c. 2 mm across, densely stellate-hairy; ovules attached apically, 1–4 in each loculus; styles 5(rarely 4), fused along their length, 4.5–5.5 mm long,  $\pm$  glabrous except for scattered stellate hairs proximally; stigma small. Fruit a capsule, tardily dehiscent, densely stellate-hairy, densely covered with spines 4–10 mm long; fruit body depressed globose, c. 15 mm long, c. 22 mm wide. Seed ovoid, 7–8 mm long, c. 5 mm across, loosely enclosed in papery, persistent exotesta. Fig. 1.

**Additional specimens:** Queensland. COOK DISTRICT: Klondike Mine Road, Silver Plains Holding, May 1995, *Hyland* RFK25863 (BRI); Klondike Mine Road, Dec 1995, *Gray* 06459 (BRI); cult. Atherton, exl Silver Plains Holding Jan 2002, *Ford* 2606 (BRI).

**Distribution and habitat:** *Indagator fordii* is known only from the type locality on Silver Plains Holding, c. 15 km SE of Coen, Cape York Peninsula, Queensland, where it is recording as growing in vine thickets.

**Phenology:** Flowering has been observed in cultivation from January and February (A. Ford, 2002, pers. comm.); mature fruits have been recorded in the native population in December and May.

**Etymology:** The generic name *Indagator* is Latin for an investigator or explorer and refers to the ship “*Investigator*” which was



**Fig. 1.** *Indagator fordii*. Photograph of holotype.

commanded by Matthew Flinders when he carried out a circumnavigation of the Australian continent from 1801 to 1803. The generic name has masculine gender.

The specific epithet honours Andrew Ford of Atherton, Queensland, an avid and talented field botanist whose collections have greatly improved our knowledge of north east Queensland flora.

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### **References**

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